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10/718,145

11/20/2003

Patrick A. Hosein

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EXAMINER

CHO, UN C

ART UNIT

PAPER NUMBER

2617

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DELIVERY MODE

06/27/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|-----------------|---------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/718,145 | HOSEIN ET AL. | |
| | Examiner | Art Unit | |
| | Un C. Cho | 2617 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-56 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 12, 13, 15-18, 27, 28, 30-35, 37-40 and 47-50 is/are rejected.
- 7) ☒ Claim(s) 4-11, 14, 19-26, 29, 36, 41-46 and 51-56 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>4/25/2005</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement (IDS) submitted on 4/25/2005 has been recorded in file and considered by the examiner.

Claim Objections

2. Claim 46 is objected to because of the following informalities:

Claim 46, line 1 recites "isdifferent" it should recite "is different" instead.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1 – 3, 12, 13, 15 – 18, 27, 28, 30 – 35, 37, 38 and 47 are rejected under 35 U.S.C. 102(e) as being anticipated by Harris et al. (US 2006/0182030 A1).

Regarding claim 1, Harris discloses determining a target frame error rate;
and computing the target load as a function of the target frame error rate

(determining target FER based on the load metrics; Harris: Page 7, Paragraph 0059, line 1 through Paragraph 0060, line 7).

Regarding claim 2, Harris discloses wherein the target frame error rate is the frame error rate after frame selection by a base station controller (infrastructure, Fig. 1, element 124 including a base station controller; Harris: Page 8, Paragraph 0061, lines 1 – 11).

Regarding claim 3, Harris discloses determining a target frame erasure rate for a radio base station that approximately yields the desired frame error rate; and computing the target load as a function of the target frame erasure rate (Harris: Page 4, Paragraph 0039, lines 1 – 25).

Regarding claim 12, Harris discloses wherein determining a target frame error rate comprises determining an average target frame error rate from a plurality of mobile stations (Harris: Page 8, Paragraph 0062, line 1 through Paragraph 0063, line 17).

Regarding claim 13, Harris discloses wherein determining a target frame error rate comprises determining user dependent target frame error rates for a plurality of mobile stations (Harris: Page 8, Paragraph 0062, line 1 through Paragraph 0063, line 17).

Regarding claim 15, Harris discloses controlling data transmission rates of mobile stations transmitting on the reverse link channel to maintain a measured reverse link load approximately equal to the target load (Harris: Page 8, Paragraph 0062, line 1 through Paragraph 0063, line 17).

Regarding claim 16, Harris discloses a base station (infrastructure having a base station within) comprising: receive circuits to receive simultaneous signals from a plurality of mobile stations over a shared reverse link channel (Fig. 2, element 202; Page 3, Paragraph 0029, lines 1 – 16); control circuits (signal processing unit; Fig. 2, element 206; Page 3, Paragraph 0029, lines 1 – 16) for determining a target load for controlling data transmission rates of mobile stations transmitting on the reverse link channel, the control circuits operative to: determine a target frame error rate; compute the target load as a function of the target frame error rate (determining target FER based on the load metrics; Harris: Page 7, Paragraph 0059, line 1 through Paragraph 0060, line 7).

Regarding claim 17, the claim is interpreted and rejected for the same reason as set forth in claim 2.

Regarding claim 18, the claim is interpreted and rejected for the same reason as set forth in claim 3.

Regarding claim 27, the claim is interpreted and rejected for the same reason as set forth in claim 12.

Regarding claim 28, the claim is interpreted and rejected for the same reason as set forth in claim 13.

Regarding claim 30, Harris discloses wherein the control circuits further control the data transmission rates of mobile stations transmitting on a reverse link channel to maintain a measured reverse link load approximately equal to the target load (signal processing unit; Fig. 2, element 206; Page 3, Paragraph 0029,

lines 1 – 16 and determining target FER based on the load metrics; Harris: Page 7, Paragraph 0059, line 1 through Paragraph 0060, line 7).

Regarding claim 31, the claim is interpreted and rejected for the same reason as set forth in claim 1.

Regarding claim 32, Harris discloses wherein the load threshold is a maximum load (first load; Harris: Page 7, Paragraph 0059, line 1 through Paragraph 0060, line 7).

Regarding claim 33, Harris discloses wherein the load threshold is a minimum load (second load; Harris: Page 7, Paragraph 0059, line 1 through Paragraph 0060, line 7).

Regarding claim 34, the claim is interpreted and rejected for the same reason as set forth in claim 12.

Regarding claim 35, Harris discloses wherein computing the target load as a function of the target frame error rate comprises computing a combined target load adjustment based on the user dependent target frame error rates for the plurality of mobile stations (Harris: Page 7, Paragraph 0059, line 1 through Paragraph 0060, line 7).

Regarding claim 37, Harris discloses measuring a frame error rate; computing the target load as a function of the measured frame error rate and a target frame error rate (Harris: Page 7, Paragraph 0059, line 1 through Page 8, Paragraph 0060, line 7).

Regarding claim 38, Harris discloses wherein the measured frame error rate is the frame erasure rate at a base station (Harris: Page 4, Paragraph 0039, lines 1 – 25).

Regarding claim 47, the claim is interpreted and rejected for the same reason as set forth in claim 16.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 39, 40 and 48 – 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harris in view of Tsai et al. (US 2005/0037796 A1).

Regarding claim 39, Harris discloses a target frame error rate. However, Harris as applied above does not specifically disclose that the target frame error rate is a target frame erasure rate at the base station. In an analogous art, Tsai remedies the deficiencies of Harris by disclosing such limitation on Page 1, Paragraph 0004, lines 1 – 7 whereas the value of the target is adjusted based on the Frame Error (or Erasure) Rate. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the technique of Tsai to the system of Harris in order to provide an efficient method and apparatus for power control in a wireless communication network.

Regarding claim 40, Harris in view of Tsai as applied above discloses wherein the target frame erasure rate at the base station is selected to yield a desired frame error rate after frame selection at a base station controller (Harris: Page 4, Paragraph 0039, lines 1 – 25 and Tsai: Page 1, Paragraph 0004, lines 1 – 7).

Regarding claims 48 and 49, the claims are interpreted and rejected for the same reason as set forth in claim 39.

Regarding claim 50, Harris in view of Tsai as applied above discloses wherein the target frame erasure rate at the base station is selected to yield a desired frame error rate after frame selection at a base station controller (Harris: Page 4, Paragraph 0039, lines 1 – 25).

Allowable Subject Matter

7. The following is a statement of reasons for the indication of allowable subject matter:

Regarding claims 4 – 7, Harris, Tsai and Choi either alone or in combination fails to teach computing an adjustment factor as a function of the target frame erasure rate; and multiplying a current target load by the adjustment factor to get a new target load.

Regarding claims 8 – 11, Harris, Tsai and Choi either alone or in combination fails to teach computing a target load adjustment as a function of the

target frame erasure rate and a measured frame erasure rate; and adding the target load adjustment to a current target load to get a new target load.

Regarding claim 14, Harris, Tsai and Choi either alone or in combination fails to teach wherein computing the target load as a function of the target frame error rate comprises determining a per user target load adjustments based on the user dependent target frame error rates, summing the per user target load adjustments to obtain a combined target load adjustment, and adding the combined target load adjustment to a current load to obtain a new target load.

Regarding claims 19 – 22, 41, 42, 51 and 52, the claims are interpreted and objected for the same reason as set forth in claims 4 – 7.

Regarding claims 23 – 26, the claims are interpreted and objected for the same reason as set forth in claim 8 – 11.

Regarding claim 29, Harris, Tsai and Choi either alone or in combination fails to teach determining a per user target load adjustment based on the user dependent target frame rates, summing the per user target frame adjustments to obtain a combined target load adjustment, and adding the combined target load adjustment to a current target load to obtain a new target load.

Regarding claim 36, the claim is interpreted and objected for the same reason as set forth in claim 14.

Regarding claims 43 – 46 and 53 – 56, Harris, Tsai and Choi either alone or in combination fails to teach computing a target load adjustment; and adding the target load adjustment to a current target load to obtain a new target load.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


Choi et al. (US 2003/0206537 A1) discloses a method and apparatus for call admission control in a mobile communication system.

Chen et al. (US 5,923,650) discloses a method and apparatus for reverse link resource scheduling.

Lu et al. (US 6,519,462 B1) discloses a method and apparatus for multi-user resource management in wireless communication systems.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Un C. Cho whose telephone number is (571) 272-7919. The examiner can normally be reached on M ~ F 8:00AM to 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, George Eng can be reached on (571) 272-7495. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.


GEORGE ENG
SUPERVISORY PATENT EXAMINER

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Un C Cho
Examiner
Art Unit 2617

6/21/07 UC